



Model BO 10
BUMP OUT 10

Self Closing & Electric Operation

Pass-Thru Window

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DISCLAIMER

READY ACCESS DISCLAIMS ANY LIABILITY FOR ANY DAMAGE OR HARM CAUSED TO THE BO-10 DRIVE-THRU WINDOW, IT'S OPERATOR OR ANY OTHER EQUIPMENT HOWEVER CAUSED IF THE BO-10 DRIVE-THRU WINDOW IS REPAIRED OR SERVICED BY ANYONE OTHER THAN AN AUTHORIZED SERVICE ENGINEER OR CONTRARY TO THE MANUFACTURERS WRITTEN INSTRUCTION CONTAINED HEREIN.

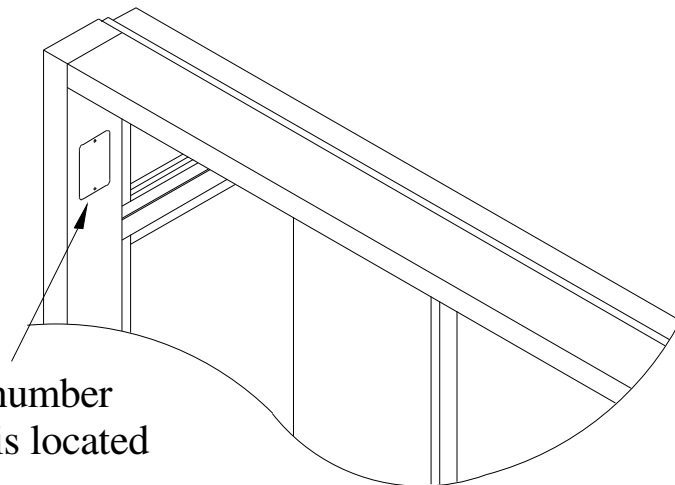
THIS MANUAL IS INTENDED FOR USE BY THE IN-HOUSE OR AUTHORIZED FIELD SERVICE ENGINEERS AND SALES REPRESENTATIVES

The manufacturer maintains the right to update, add or issue a new service manual at any time without notice, thereby rendering all previous issues obsolete.

Please write the Serial Number and Installation Date for your drive-thru window in the spaces provided.

Serial Number	
Date of Installation	

The serial number
nameplate is located
on the post



CONTACT INFORMATION FOR SALES AND SERVICE CONTACT

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INTRODUCTION

The Ready Access window is quality designed to give you years of reliable, trouble-free service. Each window is shipped pre-assembled, fully glazed and ready for installation. All Ready Access windows are thoroughly tested prior to shipping.

The BO-10 Bi-Parting Window is the perfect enhancement to the drive-thru concept, offering unobstructed views of customer and crew.

The BO-10 comes in two versions, manual/Self Closing and electric. The electric version is fully automatic with a manual override in case of a power outage. The doors will open and close by stepping into an out of the light beam sensor. Both models meet health department requirements for self-closing units.

This classic bump out design offers a panoramic view of cars and outside activity. Convenience is key with over four feet of inside usable counter space and a large 18"W x 23"H (483mm W x 584mm H) service opening. Available in manual or electric operations, the Bump Out 10 is a practical choice for any business.

PRODUCT INFORMATION

- **Large 18"W x 23"H (483mm W x 584mm H) Service Opening**
Perfect for virtually any size order, the Bump-Out 10 features a bi-parting door opening for operating convenience.
- **Panoramic View**
This original bump-out design offers the operator a 3-sided view of cars and outside activity.
- **Counter Space**
The Bump-out 10 has over 4 feet of usable inside counter space for condiments and other necessities.
- **Quality Construction**
Anodized aluminum extrusions, stainless steel and 1/4" tempered glass combine to give you an attractive window that not only enhances building exteriors, but will not rust, pit or weather. Track free bottom sill provides for a contaminant free surface.
- **Double Security Locks**
Bump-Out 10 Windows automatically lock each time the doors close, providing security when the window is unattended. When the drive-thru is closed, manual security locks help to prevent outside entry. An optional security bar set is available for high risk areas.
- **Fully Assembled, Ready to Install**
Ready Access windows are shipped completely preassembled, and fully glazed for lower installation costs. Normal installation takes less than two hours.

- **Three to Five Day Shipping**
Ready Access will ship any standard window order in 3 to 5 days from receipt of order.
- **Warranty and Service Support**
Your Bump-Out 10 comes with a one year limited warranty on parts and labor. In addition, each unit is backed by a world-wide service organization.

MANUAL/SELF CLOSING OR FULLY-AUTOMATIC SERVICE OPENINGS

- **Manual/Self Closing**
In a Manual/Self Closing operation, simply release the self latching handle and pull open the door. Both doors part from the center and easily slide open. To close the window simply let go and gravity will close the window.
- **Fully-Automatic**
The operator simply steps into an electronic light beam which opens the door panels automatically. The door panels automatically close when the operator steps away from the electronic light beam. By the push of a button, operators can easily adjust the window opening size to either 12"W or 18"W.

AVAILABLE OPTIONS

- The Bump-out 10 is available in statuary bronze or clear anodized aluminum.
- Tinted glass is available upon request.
- Powder coat painting is available in a wide range of custom colors.

SPECIFICATIONS AND PERFORMANCE

Model Number	Unit Voltage		Actual Unit Amps	Dimensions In Inches W X H x D	Weight In Shipping Carton
	USA	International			
BO-10 - E	110/120 VAC 60Hz	220/240 VAC 50/60Hz	15 A (US) 8 A (Int'l)	53½" x 48¾" x 14¼"	180 lbs

Dimensions

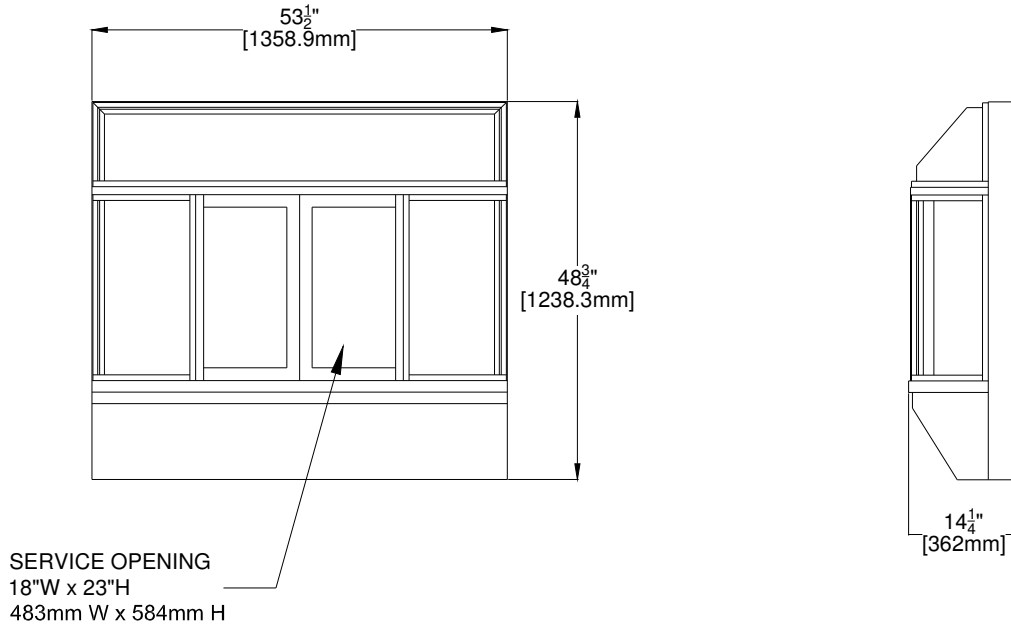


Figure 1

Safety Information

WARNING: To avoid the risk of fire, Electric Shock or injury to persons, observe the following:

- Before servicing or cleaning the unit, switch the power off at the mechanical switch near the unit (Installed by an Electrician) or the electrical entry service panel/circuit breaker. (Load Center)
 - **OSHA LOCK OUT – TAG OUT** procedures are to be observed to prevent power from being switched on accidentally.
- Any Installation and / or Electrical work must be done by **QUALIFIED** persons in accordance with all applicable codes / standards and manufacturers recommendations and specifications.
- DO NOT** insert fingers and / or foreign objects into the Drive-Thru Window.
DO NOT block or tamper with the unit in any manner while it is in operation.
- This product must not be used in Potentially Dangerous locations such as Flammable, Explosive or Chemical – laden environment.

Installation Procedures

Tools required to perform the installation

- Electric Drill
- Metal Drill bits –
1/8" (3mm)
1/4" (6mm)
1/2" (13mm)
1" (25mm)
- Screwdrivers – Slotted and Phillips
- Hacksaw
- Jack / Utility Knife
- Flat File – Coarse
- Caulking gun
- 1/4" Nut Driver
- Extension Cord
- Masonry drill bit –
1/4" (6mm)
1" (25mm)
1 1/2" (38mm)
- Masonry Hole Saw – 1" (25mm)
- Channel Lock Pliers
- Tape Measure
- Wire Cutter
- Step Ladder
- Level

Materials required for installation

- Window framing, architect specified and installed in building.
(Ready Access recommended material is 1/8" (3mm) x 1 3/4" (44.5mm) x 4" (102mm) hollow aluminum tubing or glazing channel)
- Electrical Tape
- Wire Nuts
- Caulking – silicone (Color specific to the color of window)
- Connectors for conduit as required
- Shingle type shims – as required to level and plum the window

Physical Installation

Before you begin installing your Ready Access Drive-Thru Window, you must determine what type of installation will be required. Wood Frame, Masonry Framing, etc.

Please refer to the details below and on the next page to pick which one best fits your application.

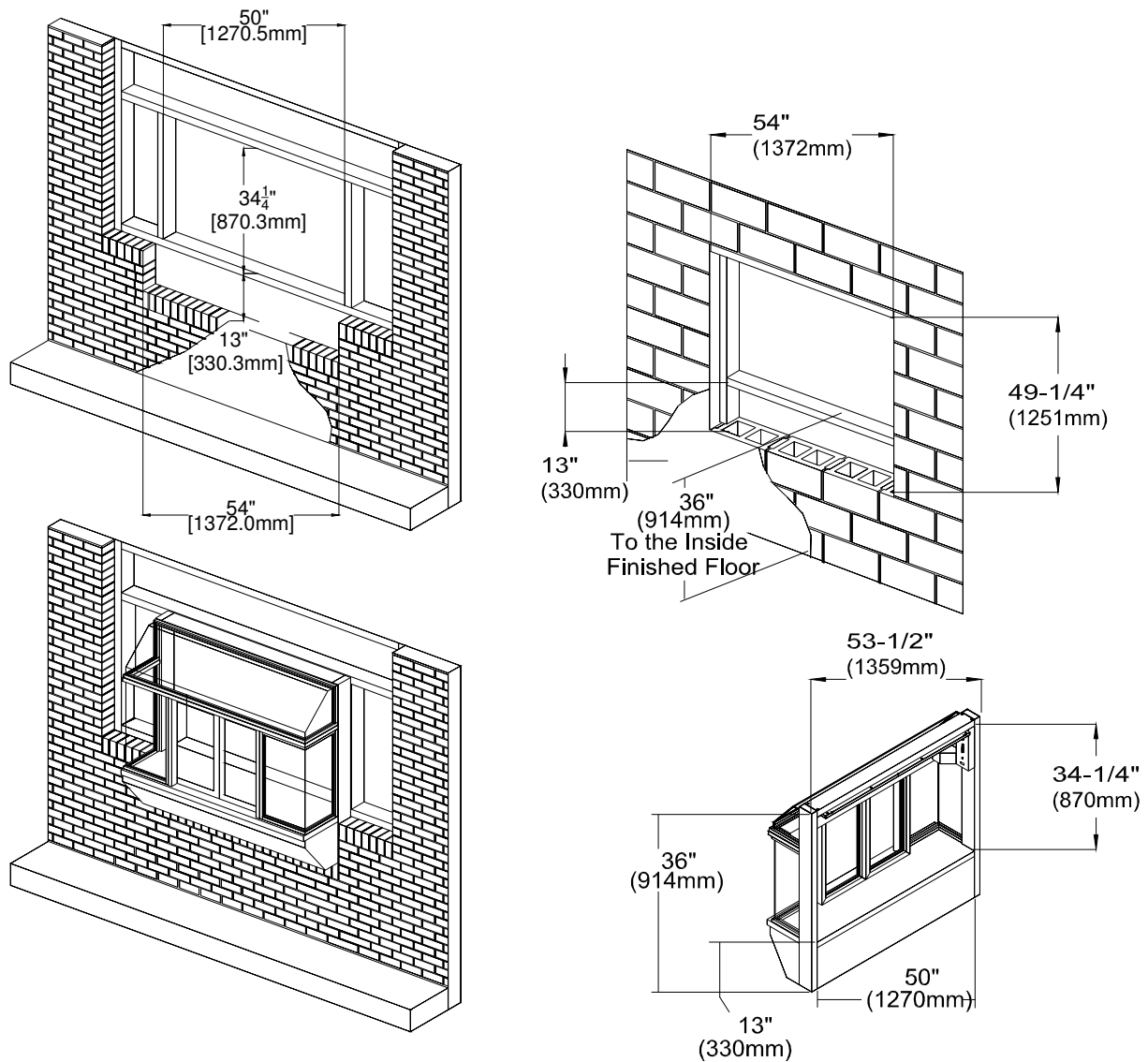


FIGURE 2A

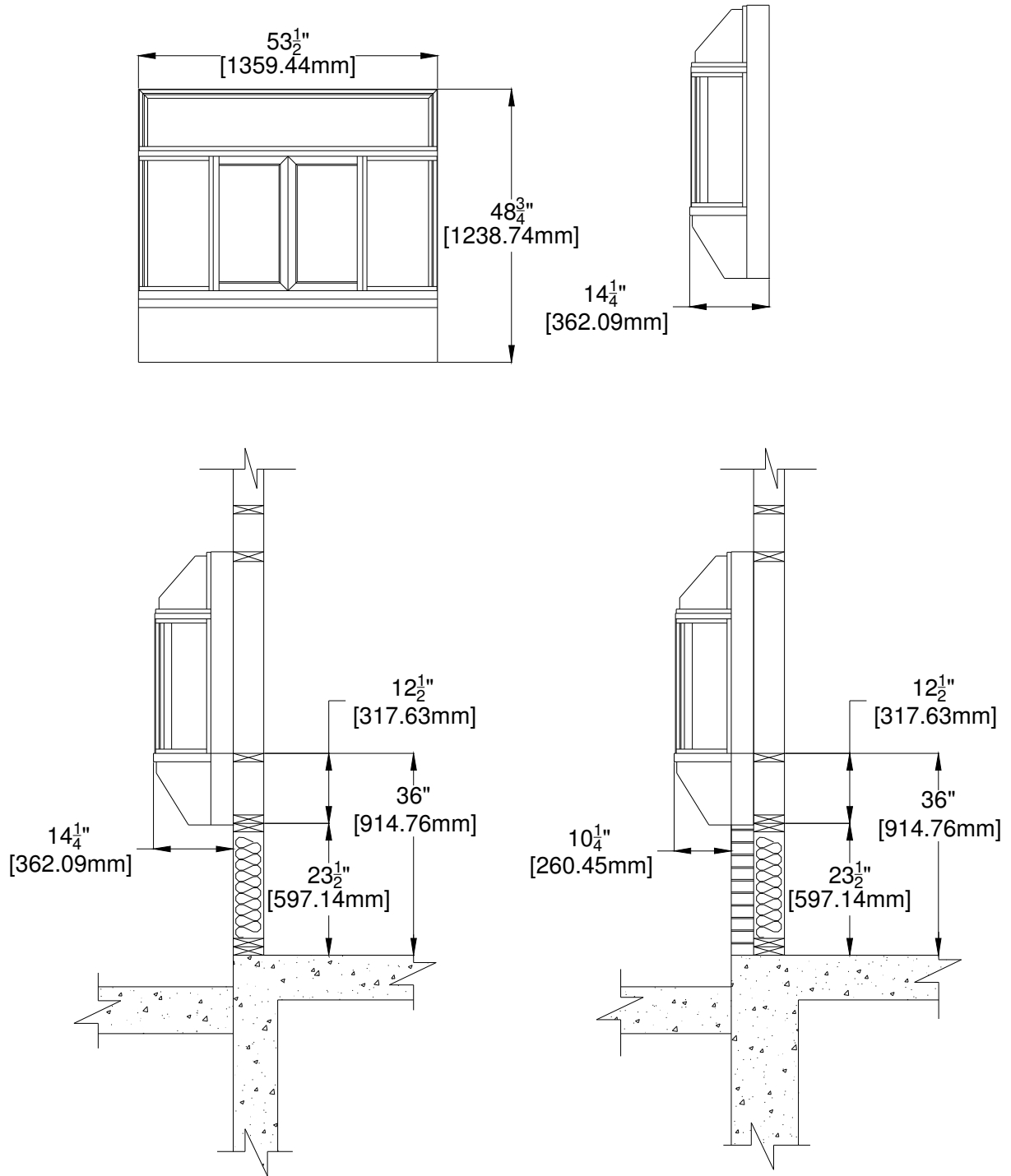


FIGURE 2B

WARNING:

TWO PEOPLE ARE REQUIRED FOR THE LIFTING AND INSTALLATION OF THE WINDOW.

1. Confirm that the customer-supplied frame is made to accommodate the dimensions as illustrated on page 9.
2. Confirm that AC power has been run and is ready for connection to the window.
3. Check shipping carton for any shipping damage and remove window from the carton.
4. Check window for any shipping damage.

NOTE: There are two wall-mounting applications. The mounting space can be surrounded either by sidelights (windows) or masonry. The illustrations will show both configurations. (Figure 3)

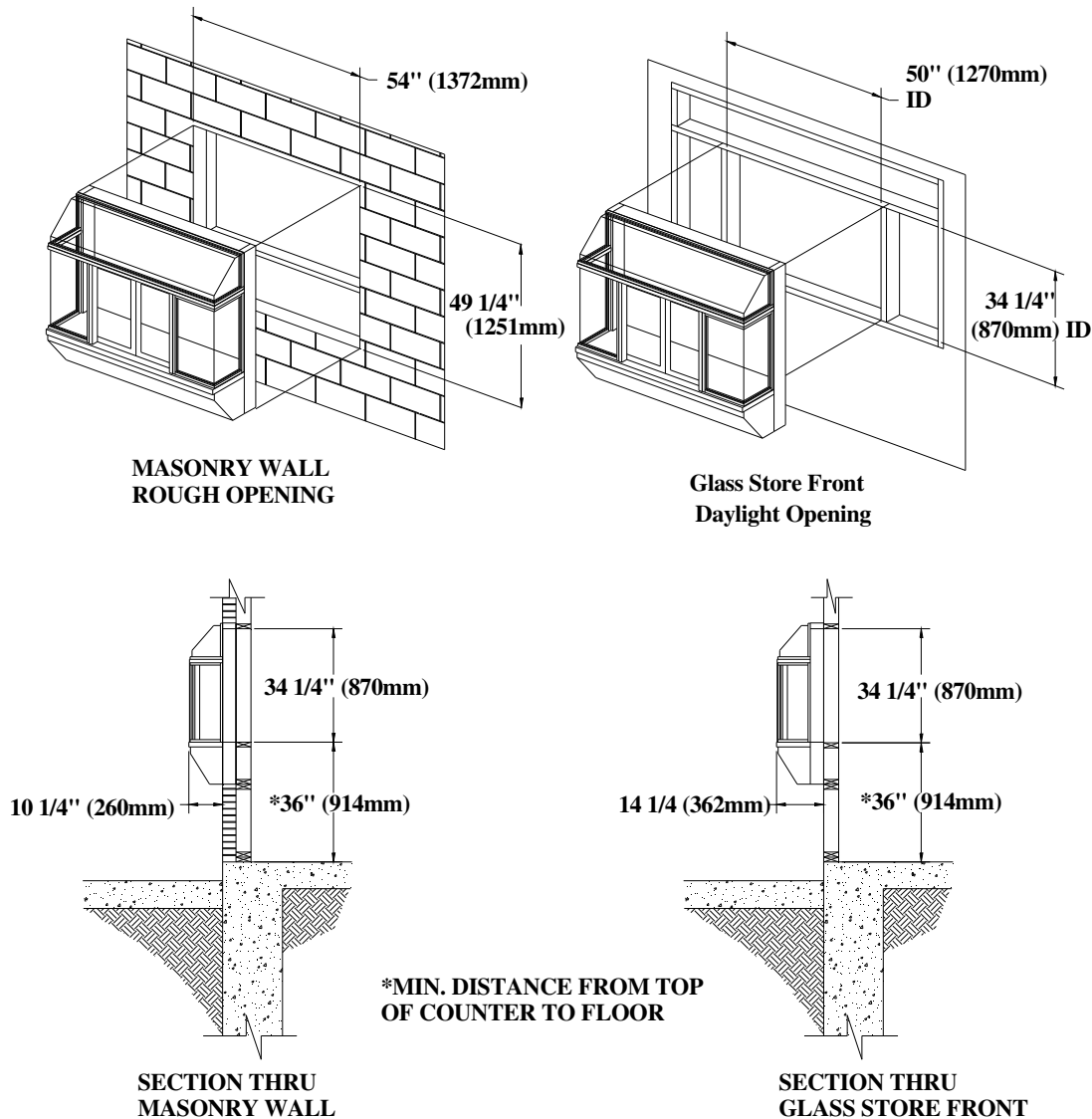


Figure 3

5. Once the application has been determined, check the daylight opening of the frame being used. The opening dimensions should be 50" wide x 34-1/2" high.
6. For a Fully-Automatic installation, check for the electrical hook-up. The AC electric should be installed from the breaker box (Load Center) to the window opening before the installation of the window.
7. Using the paper mounting template, drill a quantity of 5, 1/4" diameter pilot holes for mounting. (See Figure 5) **OUTSIDE ONLY – DO NOT DRILL THROUGH THE FRAME.**

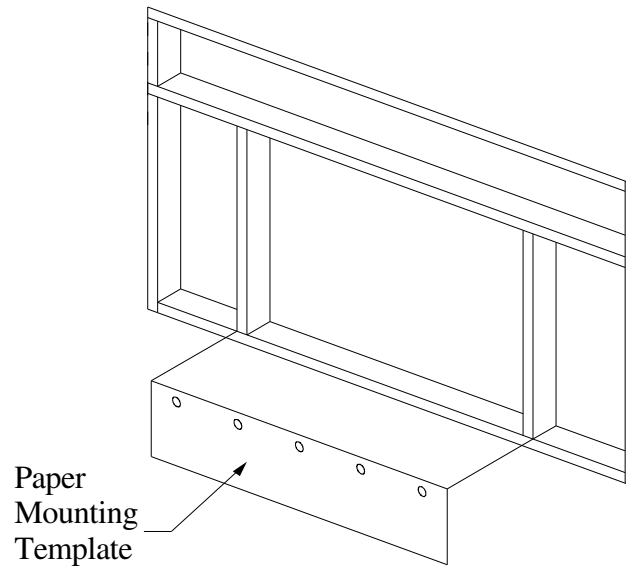


Figure 5

8. Remove the template and drill 5, 1/2" holes using the 1/4" pilot holes. **OUTSIDE ONLY – DO NOT DRILL THROUGH THE FRAME.**
9. For Fully-Automatic installations, Drill a 1 1/2" hole through the wall as illustrated in Figure 6. (The dimensions shown are from the inside of the building.)

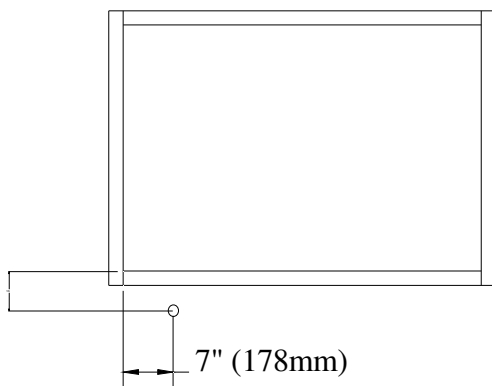


Figure 6

Rough Opening Shown from the Inside looking Out.

Dimensions are taken from the inside daylight opening of the frame.

10. Requiring 2 people, remove Ready Access Window from carton and place on top of carton lid to prevent scratching.

11. Person number 1 should remove the bottom cover from the window and organize the mounting hardware.

Person number 2 should apply a bead of caulk to the outside surface of the building window frame. (Reference 1/2" drilled holes for mounting window.)

12. Mount the mullion mounting strip provided to the underneath side of the header frame of the window. Pilot holes are provided in the header frame of the window unit.

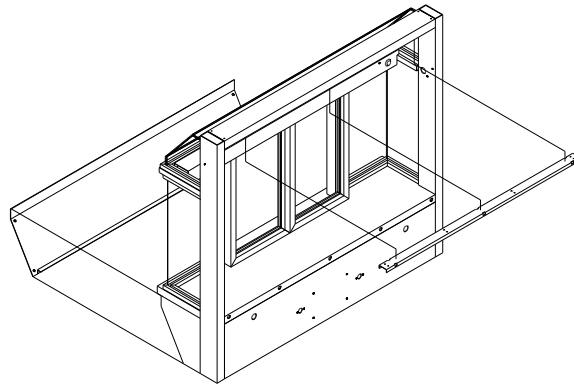


Figure 7

13. Requiring 2 people, stand window upright. With one person on each side of the window, lift the window into position, aligning the counter top with the building frame sill and the mullion mounting strip going underneath the rough opening header.

With one person holding the front of the window from falling forward, the other person from the inside will start inserting mounting screws through the mullion strip that has been mounted to the window in step 12.

From the outside, insert the 5 well nuts and fasten with the bolts and washers provided, through the bottom, underneath the counter, into the building frame. (Mounting into wood, use lag bolts. Mounting into masonry, use mason anchors.)

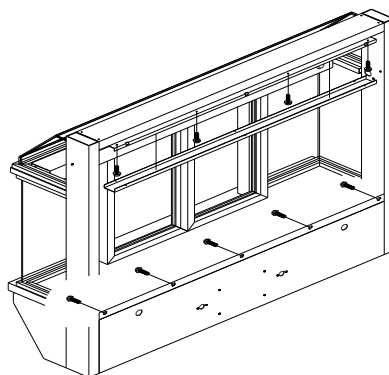


Figure 8

14. DO NOT TIGHTEN - Shim unit to be square and plum. Once this has been done, tighten mounting hardware and snap on mullion mounting strip cover.
15. When the window is fully secured, seal the outside of the window to the frame or building using silicone caulk.

Fully-Automatic Instructions

Electrical Installation

All power must be connected and wired by a **qualified electrician** and must be in compliance with all state and local codes.

The incoming AC power line must be connected to the receptacle located underneath the counter top. (Per Standard electrical code.) The green “grounding” wire is to be attached to the frame of the unit.

WARNING: Use only 110/120VAC – 60Hz source with a dedicated 15Amp circuit.
International power: 220/240VAC – 50/60Hz with a dedicated 8amp branch circuit.

WARNING: This must be a dedicated circuit. Other electrical equipment must not share the same line from the 15Amp circuit breaker.

WARNING: Turning off the front panel rocker switches does not remove the AC voltage from the unit

WARNING: To disconnect the power completely from this unit, turn OFF the mechanical switch near the unit (Installed by an Electrician) or the electrical entry service panel/circuit breaker panel (Load Center) for this unit.

- **OSHA LOCK OUT – TAG OUT** procedures are to be observed to prevent power from being switched on accidentally.

1. Remove the screws holding on the front cover.
2. Wire the AC source line to the receptacle. (See Figure 9)



Figure 9

Mounting Electric Eye Housing

1. Position eye housing on the interior wall covering the 1-1/2" hole drilled through for electric cable passage way.
2. Align the wall mounting brackets on inside finished wall. Use as a template to scribe holes for drilling 1/4" holes for plastic mounting anchors.
3. Drill 4 - 1/4" (6.5mm) holes using the masonry drill bit.
4. Insert the plastic anchors and mount the brackets with the #10 or #12 screws.
5. Attach electric eye mounting channel to the wall mounting brackets with the (4) 8-32 x 1/2" screws provided.
6. Attach the sensor to the brackets and secure.
7. Take electric eye cable and pass through 1" hole into the bottom of the window unit and connect to the cable marked "ELEC.EYE".
8. Assemble plastic electric eye housings to the electric eye mounting channel.

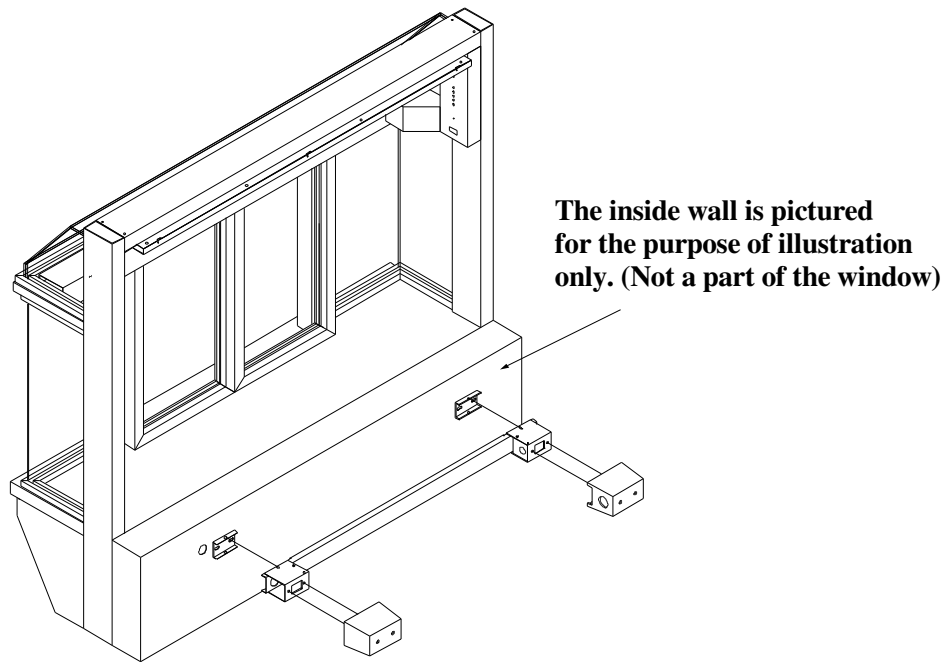


Figure 10

9. Turn "ON" the power to the unit. (Load center circuit breaker and power switch on the "Control unit".)
10. Test window operations. See "Testing Procedures".

Initial Window Operation

Testing Procedures

Action	Reaction
Turn the power “ OFF ” at the rocker switch located on the controller unit. Manually open and close the doors several times.	When the doors are opening, the “MOTOR RUN” lamp will illuminate green. When the doors are closing, “MOTOR RUN” lamp will illuminate red. The “POWER” lamp must illuminate during both operations. If neither of these lamps illuminate during any of the processes, proceed to the “Troubleshooting” section.
Turn the power “ ON ” at the rocker switch located on the controller unit. Break the electric eye beam to open the door.	The doors will open to either a 12” (304.8mm) opening or to an 18” (457.2mm) opening.
With the power “ ON ” press the opening size button located on the controller unit once and break the electric eye beam to open the doors.	The opening size of the doors will change from the previous setting. (12” to 18” or 18” to 12”)
With the power “ ON ” break the electric eye beam momentarily to open and close the doors.	The doors will open. They will remain in the open position for either approximately 1.5 or 3.0 seconds before closing. NOTE: The DC-3 PCB allows for longer close delay times. (See the Adjustments and Calibration Section)
With the power “ ON ” press the “CLOSE DELAY” button located on the controller unit once and break the electric eye beam to open the doors.	The doors will open and the length of time that the doors remain open will toggle between 3 and 6 seconds before closing.
With the power “ ON ” break the electric eye beam momentarily to open and close the doors. Insert an object at least 4” (101.6mm) wide between the doors as they are closing.	The doors will automatically reverse their action (the doors will open), when an object is caught between or restricting the closing of the doors.

Adjustments and Calibrations

Door Alignment

Adjustments to the door's height and alignment are accomplished by turning one or both of the eccentric adjusting nuts located at the top of the doorframe where it mounts to the slide track. (Figure 11)

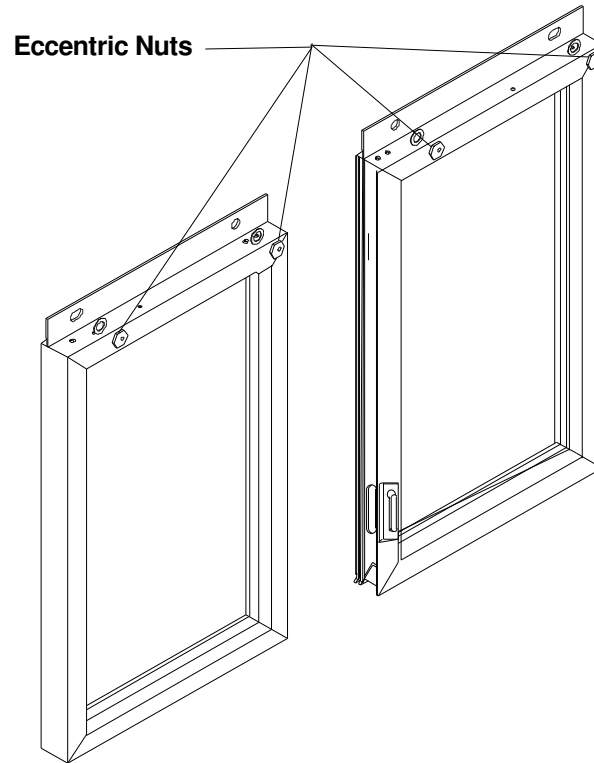


Figure 11

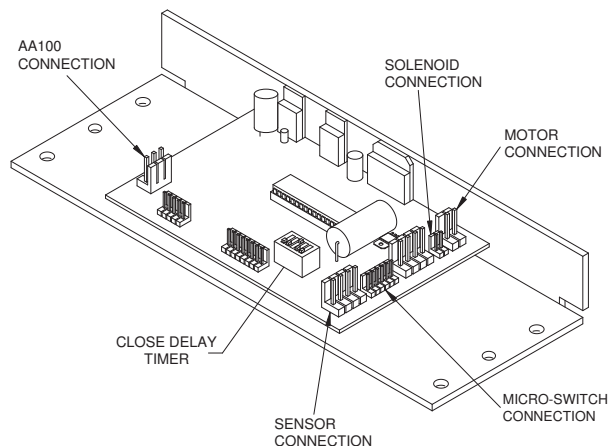


Eccentric Adjusting nut

Calibration:

The only calibration available on the DC-3 PC board is setting the close delay timer using the dip switch package mounted near the ribbon cable connector.

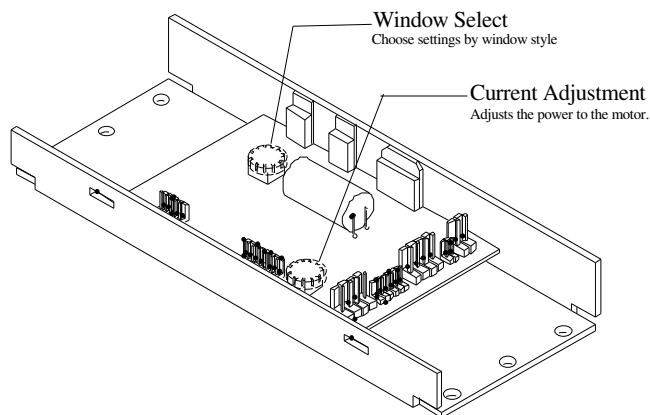
The CLOSE DELAY TIMER is default set at 3 seconds



Follow the Chart Below for Changing the Close Delay Time Settings

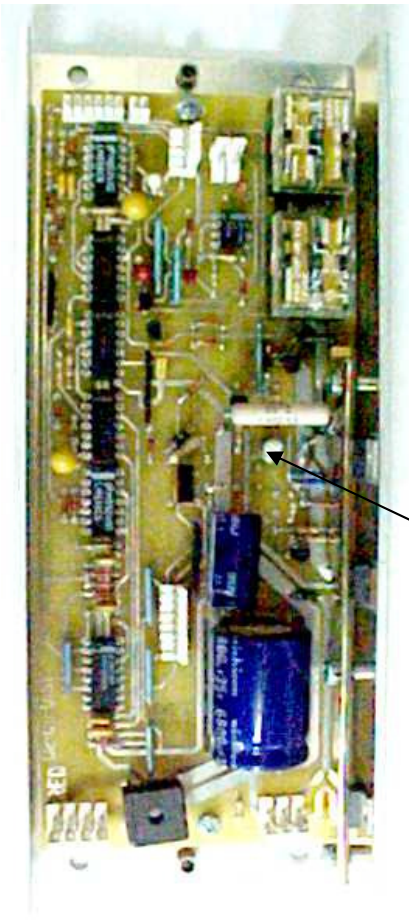
Dip Switch Settings					
Time in Seconds	Switch Position				
	1	2	3	4	5
1	ON	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF
3	OFF	OFF	ON	OFF	OFF
4	OFF	OFF	OFF	ON	OFF
5	OFF	OFF	OFF	OFF	ON
12	ON	ON	OFF	OFF	OFF
13	ON	OFF	ON	OFF	OFF
14	ON	OFF	OFF	ON	OFF
15	ON	OFF	OFF	OFF	ON
23	OFF	ON	ON	OFF	OFF
24	OFF	ON	OFF	ON	OFF
25	OFF	ON	OFF	OFF	ON
34	OFF	OFF	ON	ON	OFF
35	OFF	OFF	ON	OFF	ON
45	OFF	OFF	OFF	ON	ON

The DC-2 PCB has two potentiometers



The Window Select Dial is used to set the type of door configuration for the model of window.

The Current Dial is used to increase or decrease the power to the motor. This is adjusted to insure proper operation.



Preliminary Information:

The P1 potentiometer (Pot) is used to adjust the point of detection of the motor current. When the motor current detection occurs, the "Current Detect" lamp on the front panel will illuminate. If the "Close Detect" is lit when the "Current Detect" lamp turns on, the closing of the doors will be halted and the doors will auto-reverse and re-open.

Properly adjusting the pot allows the doors to close completely and shuts off the power to the motor the moment the doors make contact with each other.

If improperly set, the doors will respond in one of the two separate and distinctive manners.

1. If the pot is set too far clockwise, the doors will close and come together completely. The motor will continue to run for about a second or two after.
2. If the pot is set too far counter-clockwise, the doors will start to close. Stop anywhere from 2 to 6 inches apart then auto reverse and reopen the door.

Adjustment Procedure:

The adjustment procedure begins by carefully turning the pot to the stop position in the full clockwise position. Then turn the pot in a counter clockwise direction until the screwdriver slot is about halfway.

Turn the power "ON" and break the beam. The window will probably operate properly. Continue the adjustments as follows.

1. Continue to cycle the window and with each opening, turn the pot clockwise in small increments until the doors come together completely while closing and the motor continues to run for about a half of a second. (MAKE A MENTAL NOTE OF THIS POSITION.)
2. Return the screwdriver slot back to the approximate halfway position.
3. Continue to cycle the window and with each opening, turn the pot counter-clockwise in small increments until the doors start to close and then stop anywhere from 2 to 6 inches apart then auto reverse and reopen the door. (MAKE A MENTAL NOTE OF THIS POSITION.)
4. Now position the screwdriver slot to a position approximately halfway between the two positions noted in steps 1 and 3. The potentiometer is now properly adjusted.

Operation Procedures

Modes of Operation:

The BO-10 bi-parting window has two modes of operation, Manual/Self Closing and Fully-Automatic.

Manual

The **Manual/Self Closing Mode**: To open the window pull both doors evenly, to close simply let go and gravity will close.

(DO NOT OPEN OR CLOSE THE DOORS WITH ANY UNDUE FORCE)

Manual/Self Closing Operations:

1. Unlock the Thumb-Turn Lock on the door.
2. Release the manual latch and push the door open.
3. Let go of the doors and gravity will close.
4. Relock the Thumb-Turn Lock.

Fully-Automatic

The **Manual Mode** is reached by turning "OFF" the main power to the window. The opening and closing of the window is done by hand. **(DO NOT OPEN OR CLOSE THE DOORS WITH ANY UNDUE FORCE.)**

The Automatic Mode is reached by turning "ON" the main power to the window. Stepping in and out of the sensor's range opens and closes the doors.

Operations

After installation of the model #BO-10 Manual or Electric Sliding window, completion of the testing procedures and the installation of the decorative covers, the window is ready for normal use.

1. On the controller unit, turn the power rocker switch to the "ON" position.
2. Check that the red portion of the rocker switch is visible and that the red power lamp is illuminated.
3. Break the electronic eye beam or step into the sensor beam path. The red beam break and green motor run lamps go on.
4. Step out of the beam path and wait 3 to 6 seconds for the doors to close. The red motor run lamp and red close detect lamps will illuminate. After the doors close note that the red power lamp and the current detect lamps are "ON".
5. If the doors do not operate correctly, go to the troubleshooting guide in this manual. If the doors still do not operate properly, then call Ready Access at

1-800-621-5045

6. The doors can be operated manually by pulling the manual release located at the top of the door.

NOTE: Turn the power off to the window to prevent any damage to the PCB.

Each operator must read the operations manual before operating the unit.

Controls Identification, Explanation and Function



Controller Unit

Lamps and Switches	Function
Power Lamp	This lamp indicates that the power rocker switch is on and the controller is receiving power.
Motor Run Lamp	<p>The "MOTOR RUN" lamp indicates that power is being applied to the motor. When the doors are opening, lamp will illuminate green. When the doors are closing, the lamp will illuminate red.</p> <p>The lamp also allows for the diagnostic checking of the motor and motor wiring. To test, turn the power "OFF" at the rocker switch and manually open and close the doors. This will cause the lamp to illuminate either green or red. The "POWER" lamp must illuminate during both operations. If neither of these lamps illuminate during any of the processes, proceed to the "Troubleshooting" section.</p>
Beam Break Lamp	This lamp indicates that the electric eye beam or presence sensor beam has been broken and/or the "CLOSE DELAY" timer is still timing out.

Close Detect Lamp	This lamp is red and indicates that a "CLOSE" sequence has been initiated. It will always light during a door closure and will go out just before the doors come together. When the lamp is out, the automatic reverse feature is disabled.
Current Detect Lamp	This lamp is red and indicates an overload has been detected. This lamp may light on opening but is automatically disabled. The lamp will come on when the doors are fully closed or when an obstruction has been encountered.
Beam Test Switch	<p>Pressing the "BEAM TEST" button once will test the operations of the doors without using the electric eye or presence sensor. To test, the operator should not be in the path of the light beam or presence sensor.</p> <p>Standing in the light beam while pressing the button will put the window into a test mode. This will make the window continuously operate (open and close) automatically. You must turn the power off and back on to reset the window.</p>
Close Delay Switch	Pressing this button will toggle the length of time that the doors remain open between 1.5 and 3.0 seconds before closing.
Opening Size Switch	Pressing this button will toggle the opening size of the doors from 12" to 18" or 18" to 12".

Maintenance

Maintenance Schedule

Scheduled maintenance should be performed on a regular basis. This is to assure proper operation and performance of the BO-10 windows.

Daily

Check the sill for foreign materials and/or syrup. (Anything that might cause the window to bind up and not operate smoothly).

Use warm soapy water or carbonated water to clean the window.

Monthly

Follow safety procedures before opening the unit.

Check the interior of the unit for any build up of any foreign materials using a dry cloth.

NOTE: KEEP ANY LIQUIDS OFF THE INTERIOR COMPONENTS.

Clean moving parts and lubricate with silicone or Teflon spray.

NOTE: Do NOT use Grease or Oils. Do NOT lubricate the motor clutch assembly.

Yearly

Have a service technician come in and perform a maintenance check on the unit.

SERVICE

Troubleshooting Guide

Issue	Probable Cause	Resolution
Power switch in the “ON” position but the light is not illuminated.	<ul style="list-style-type: none"> No power to the controller unit <ul style="list-style-type: none"> ➤ Main Circuit breaker is defective or not “ON” ➤ The fuse on the power supply is blown ➤ Main power rocker switch is defective ➤ AC wiring is defective 	<ul style="list-style-type: none"> ➤ Reset or replace the main circuit breaker in the load center ➤ Replace the fuse on the power supply ➤ Test rocker switch with an ohmmeter. Replace if necessary ➤ Check AC wiring for opens. Replace if necessary
	<ul style="list-style-type: none"> Red Lamp/s not illuminating 	<ul style="list-style-type: none"> Replace the PCB assembly cover
	<ul style="list-style-type: none"> The 4 pin power connector to the main PCB assembly is not secure 	<ul style="list-style-type: none"> Secure the connector/s to the power supply
	<ul style="list-style-type: none"> The connector/s to the rocker switch are not secure 	<ul style="list-style-type: none"> Secure the connector/s to the rocker switch
“BEAM BREAK” lamp is “OFF” and does not illuminate when the electric eye is broken.	<ul style="list-style-type: none"> Defective electric eye assembly <ul style="list-style-type: none"> ➤ Pressing the “BEAM TEST” button on the controller unit can test this. The doors should open, pause and close. If the doors operate normally, check other causes listed below 	<ul style="list-style-type: none"> Replace the electric eye assembly
	<ul style="list-style-type: none"> Loose electric eye cable from the PCB 	<ul style="list-style-type: none"> Secure the cable connector (3 or 4 pin)
	<ul style="list-style-type: none"> Loose or broken wire/s in the electric eye cable 	<ul style="list-style-type: none"> Check that the electric eye cables are secure and not broken
	<ul style="list-style-type: none"> Defective lamp 	<ul style="list-style-type: none"> Replace the PCB assembly cover
	<ul style="list-style-type: none"> Defective PCB assembly 	<ul style="list-style-type: none"> Replace the PCB assembly
The door close fully but open back up as soon as the doors come in contact with each other.	<ul style="list-style-type: none"> Loose or broken wires to the limit switches or the PCB assembly 	<ul style="list-style-type: none"> Secure or replace the cable assembly
	<ul style="list-style-type: none"> Limit switch striker is loose or out of alignment 	<ul style="list-style-type: none"> Tighten and/or align the striker plate
	<ul style="list-style-type: none"> Defective “Close” limit switch 	<ul style="list-style-type: none"> Replace the defective “Close” limit switch
	<ul style="list-style-type: none"> Defective controller unit 	<ul style="list-style-type: none"> Replace the controller unit

Issue	Probable Cause	Resolution
When the beam is broken, the door does not open. The red “POWER” and “BEAM BREAK” lights and the green “MOTOR RUN” light on the CONTROLLER unit are “ON”.	<ul style="list-style-type: none"> Defective motor assembly <ul style="list-style-type: none"> To test for a defective motor, open and close the doors with the power “OFF”. If the motor is faulty, the red/green “MOTOR RUN” lamp will not illuminate 	<ul style="list-style-type: none"> Replace the motor assembly
	<ul style="list-style-type: none"> Solenoid latch in the door is stuck or defective <ul style="list-style-type: none"> To test for a defective solenoid, manually open the doors halfway and break the beam. The solenoid should retract the hook and the doors should open, pause and close. Break the beam again to verify that the doors are not opening Check the wiring to the solenoid 	<ul style="list-style-type: none"> Replace the solenoid
	<ul style="list-style-type: none"> Defective components on the cable drive assembly (“S” hook, cable, spring, chain, bearing) 	<ul style="list-style-type: none"> Replace the defective component
Beam Break Lamp is “ON” and the doors open, but they do not close.	<ul style="list-style-type: none"> Loose or broken wires 	<ul style="list-style-type: none"> Secure or Replace the cable assembly
	<ul style="list-style-type: none"> Defective electric eye assembly <ul style="list-style-type: none"> Disconnect the cable for the electric eye and press the “BEAM TEST” button. If the doors operate properly the eye is defective 	<ul style="list-style-type: none"> Replace the eye assembly
	<ul style="list-style-type: none"> Defective PCB assembly <ul style="list-style-type: none"> Disconnect the cable for the electric eye and press the “BEAM TEST” button. If the doors do not operate properly the PCB is defective 	<ul style="list-style-type: none"> Replace the PCB assembly
Door “OPENING SIZE” is not working properly.	<ul style="list-style-type: none"> Loose or broken wires to the limit switches or the PCB assembly 	<ul style="list-style-type: none"> Secure or replace the cable assembly
	<ul style="list-style-type: none"> The Small/Large Opening limit switch is defective 	<ul style="list-style-type: none"> Replace the appropriate switch
	<ul style="list-style-type: none"> The “OPENING SIZE” selector switch on the controller is defective 	<ul style="list-style-type: none"> Replace the PCB assembly cover
The “CLOSE DELAY” switch is not working properly.	<ul style="list-style-type: none"> Loose or broken connection to the PCB Assembly 	<ul style="list-style-type: none"> Secure the cable connector to the PCB assembly or replace the control PCB cover
	<ul style="list-style-type: none"> Defective “CLOSE DELAY” switch 	<ul style="list-style-type: none"> Replace the control PCB cover

Issue	Probable Cause	Resolution
<p>Motor continues to run after the doors are fully opened.</p> <p>The “OPENING SIZE” button has no effect.</p>	<ul style="list-style-type: none"> Loose or broken wires to the limit switches or the PCB assembly 	<ul style="list-style-type: none"> Secure or replace the cable assembly
	<ul style="list-style-type: none"> Limit switch striker is loose or out of alignment 	<ul style="list-style-type: none"> Tighten and/or align the striker plate
	<ul style="list-style-type: none"> Defective “Open” limit switch 	<ul style="list-style-type: none"> Replace the appropriate switch
	<ul style="list-style-type: none"> Defective controller unit 	<ul style="list-style-type: none"> Replace the controller unit
<p>The doors will not “AUTO REVERSE” for an obstruction when closing and the motor continues to run.</p> <p>The “CURRENT DETECT” lamp will not illuminate.</p>	<ul style="list-style-type: none"> Loose or broken wires to the limit switches or the PCB assembly 	<ul style="list-style-type: none"> Secure or replace the cable assembly
	<ul style="list-style-type: none"> Limit switch striker is loose or out of alignment 	<ul style="list-style-type: none"> Tighten and/or align the striker plate
	<ul style="list-style-type: none"> Defective “Close” limit switch 	<ul style="list-style-type: none"> Replace the defective “Close” limit switch
	<ul style="list-style-type: none"> Defective controller unit 	<ul style="list-style-type: none"> Replace the controller unit
<p>The doors do not fully close and go into AUTOREVERSE to the fully open position.</p> <p>Doors may be sluggish in operations.</p> <p>The “CURRENT DETECT” lamp will be illuminated before the “CLOSE DETECT” lamp goes out. (BEFORE REPLACING THE MOTOR CALL READY ACCESS FOR FURTHER INSTRUCTIONS)</p>	<ul style="list-style-type: none"> Spilled soft drink syrup residue is under the doors and on the weather stripping of guide block 	<ul style="list-style-type: none"> Clean the weather stripping, counter and door guides on the bottom of the doors with soda water
	<ul style="list-style-type: none"> Doors are dragging on the counter top 	<ul style="list-style-type: none"> Adjust the door height and alignment (Refer to the adjustments section of this manual)
	<ul style="list-style-type: none"> Defective motor assembly <ul style="list-style-type: none"> ➤ To test for a defective motor, open and close the doors with the power “OFF”. If the motor is faulty, the red/green “MOTOR RUN” lamp will not illuminate 	<ul style="list-style-type: none"> Replace the defective motor assembly
	<ul style="list-style-type: none"> Defective CONTROLLER unit 	<ul style="list-style-type: none"> Replace the CONTROLLER unit
<p>The “BEAM TEST” switch is not working properly.</p> <p>The “BEAM BREAK” lamp is not illuminated and the doors do not open.</p>	<ul style="list-style-type: none"> Loose or broken connection to the PCB assembly 	<ul style="list-style-type: none"> Secure or replace the cable assembly
	<ul style="list-style-type: none"> Defective CONTROLLER unit 	<ul style="list-style-type: none"> Replace the CONTROLLER unit
	<ul style="list-style-type: none"> Defective PCB assembly 	<ul style="list-style-type: none"> Replace the PCB assembly

Parts Lists

Common Parts (Description/Part Number)

Description	Part Number	Notes
Bracket – Handle - Manual	85002600	Door Handle Kit including all parts needed
Cable & Chain Assy	85153600	
Clutch Assy - Manual Arbor	85163100	(BO-10 Manual)
Clutch Assy - Repl Kit	85152700	
Dome - Acrylic Atrium - Brz	85000601	(Bronze Tint) - Repl
Dome - Acrylic Atrium - Clr	85000602	(Gray Tint) - Repl
Door Assy - Left Br	85130701	
Door Assy - Left Cl	85130901	
Door Assy - Right Br	85130702	
Door Assy - Right Cl	85130902	
Electric Eye / Reflector Replacement Kit	85000200	Waist level operation - Repl (Not Moer or 275 after 2/99)
Electric Eye w/housing	85099000	
Handle Kit – Manual Release	85002600	
Hanging Hardware Kit	85183400	One set to mount and adjust one door
Housing - Electric eye	00650929	
Latch - Lock Assy (SASH LOCK STYLE)	85145800	Prior 2/97
Latch - Lock-Dead Vertical Position	85004200	After 2/97
Latch - Thumb Turn - Long -	85004500	After 2/97
Latch Catch Assy	85152100	
Motor & Clutch Assy	85152600	
PC Board - DC3	Call for #	Provide Serial #
Power Supply - 120V	Call for #	Provide Serial #
Pulley - Kilrol (cable)	20200142	
Slide Replacement Kit	85000100	
Solenoid & Hook Assy R/L	85150510	R/L Style Only In the Bi-Part windows
Spring & Ball Knob Kit	85000300	3 in sets in each kit
Spring - Ext (Chain & Cable)	20060025	
Striker - Sensor	65151101	
Switch - Eye - Retrofit Kit	84000300	
Switch - Rocker	20110214	(for PCBA Cover) 8/99 to after 2/27/02
Switch Assy - Micro	85151300	

Complete Parts List (Description/Part Number)

Description	Part Number	Notes
Bracket - Cable Clamp	95151001	
Bracket - Handle Manual	85002600	Door Handle Kit including all parts needed
Bracket - Solenoid	95150301	
Bracket - Solenoid -	65150301	w/Bracket - Order 65150501
Bumper - 1x1 w/blk Lvl	40010003	
Bumper - w/washer Gry	40010023	
Cable & Chain Assy	85153600	
Cable Assembly - Auto Latch	20112141	(Solenoid). (Electric)
Cable Assembly - BEA Sensor (Electric)	20112148	
Cable Assembly - Eye	20112143	(Waist High) (Electric)
Cable Assembly - Motor	20112144	(Electric)
Cable Assembly - Power	20112142	(Electric)
Cable Assembly - Sensor	20112147	Bi-Parting Units (Electric)
Caulk - Silicone - Aluminum	80050029	8oz Tube
Caulk - Silicone - Bronze	80050020	8oz Tube
Caulk - Silicone - Clear	80050021	8oz Tube
Channel - Rubber Glass	65028601	
Channel - Slide	65130301	(Housing Slide)
Clamp - Cable	95150900	
Clutch Assy - Manual Arbor	85163100	(BO-10 Manual)
Clutch Assy - Repl Kit	85152700	
Cover - Front	65149601	- (10-1/2") New Bronze
Cover - Front	65149602	- (10-1/2") New Clear
Cover - Motor	65152201	
Cover - Slide - Manual - Brz	65163201	(BO-10 Manual)
Cover - Slide - Manual - Clr	65163202	(BO-10 Manual)
Cover - Slide Channel - Brz	65151801	(BO-10 Electric)
Cover - Slide Channel - Clr	65151802	(BO-10 Electric)
Cover - Wired PCBA -Brz	65150001	
Cover - Wired PCBA -Clr	65150002	
Dome - Acrylic Atrium - Brz	85000601	(Bronze Tint) - Repl
Dome - Acrylic Atrium - Clr	85000602	(Gray Tint) - Repl
Door Assy - Left Br	85130701	
Door Assy - Left Cl	85130901	
Door Assy - Right Br	85130702	
Door Assy - Right Cl	85130902	
Electric Eye / Reflector Kit	85000200	Waist level operation - Repl (Not Moer or 275 after 2/99)
Electric Eye w/housing	85099000	

Description	Part Number	Notes
Fuse - .250 AMP	20110524	
Glass - Front - Side Panel	00651298	
Glass - Side end	00651297	
Guide Kit - Door	85003500	Contains guides for both doors.
Handle Kit – Manual	85002600	BO-10M
Hanging Hardware Kit	85183400	(Adj. Nut) (2)
Hook - S	20240016	
Housing - Electric eye	00650929	
Latch - Lock Assy	85145800	Prior 2/97
Latch - Lock-Dead Vertical Position	85004200	After 2/97 - Prior 2/97 Use 65145801
Latch - Thumb Turn - Long -	85004500	After 2/97 - Prior 2/97 Use 65145801
Latch Catch Assy	85152100	
Latch Spring	00650269	
Motor & Clutch Assy	85152600	
Mtg Hardware Kit - For Install	10706201	ORDER EACH P/N 10230017 - 10010061 - 10300007
Nut - "J" - Repl Kit	85078900	
Nut - Well	10300007	
Panel - Left Side	65149501	(10-1/2") New Style Bronze
Panel - Left Side	65149503	(10-1/2") New Style Clear
Panel - Right Side	65149502	(10-1/2") New Style Bronze
Panel - Right Side	65149504	(10-1/2") New Style Clear
PC Board - DC3	Call for #	Provide Serial #
Power Supply - 120V Cable Drive	Call for #	Provide Serial #
Power Supply - 220 Cable Drive - Int'l	Call for #	Provide Serial #
Pulley - Kilrol (cable)	20200142	
Receptacle - Power	20110241	
Reflector - Mini	20150004	
Reinforcement Angle	95119900	
Rivet - Bearing Slides - Long Shank	10180010	
Rivet - Door Guide	10180024	
Rivet - Pop	10180009	
Screw	10010061	
Screw - Motor to Bracket	10010039	
Screw - PCB Cover	10010033	
Screw for Cable Clamp	10010026	
Screw for inside cover - sensor striker	10010114	

Description	Part Number	Notes
Slide Replacement Kit	85000100	
Solenoid & Hook Assy R/L	85150510	
Spring & Ball Knob Kit	85000300	(3 ea. kit) - Repl
Spring - Compression	20060026	(Motor & Clutch)
Spring - Ext (Chain & Cable)	20060025	
Standoff - 1/4 OD Hex	20110283	x m.f 6-32 THRD (Electric)
Striker - Sensor	65151101	
Support - Glass	00650272	
Switch - Eye - Retrofit Kit	84000300	
Switch - Micro	20110281	
Switch - Rocker	20110214	(for PCBA Cover) 8/99 to after 2/27/02
Switch Assy - Micro	85151300	
Template - Drill - Door Slide	65134401	
Washer	10230017	
Washer - Flat (Electric)	10230108	
Weather Strip Kit	85104000	

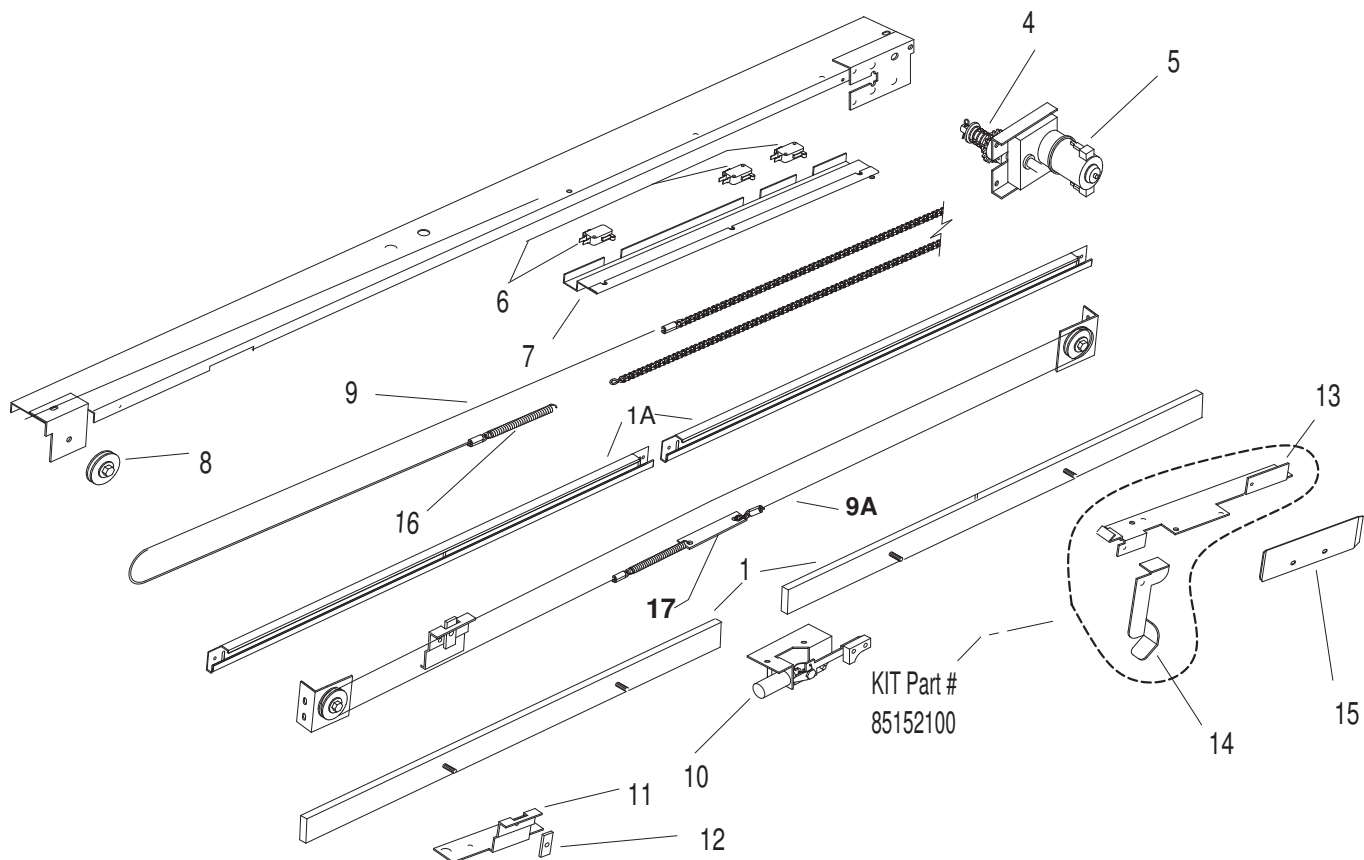
Drawings

Exploded Views

Part Number If Applicable	Description	Page
N/A	Header Assembly (Automatic) – Exploded View	30
N/A	Header Assembly (Manual) – Exploded View	30
N/A	Door and Slide Channel – Exploded View	31
85178200	Motor and Clutch Assembly	31
85150510	Solenoid and Hook Assembly	31
85152700	Clutch Assembly (Automatic) – Exploded View	31
N/A	Window Assembly (Less Doors and Header) Exploded View	32

Schematics

Part Number If Applicable	Description	Page
N/A	Electrical Schematic	33
N/A	Wiring Layout (New Style PCB)	34
N/A	Wiring Layout (Old Style PCB)	35
N/A	Electric Eye Wiring	36



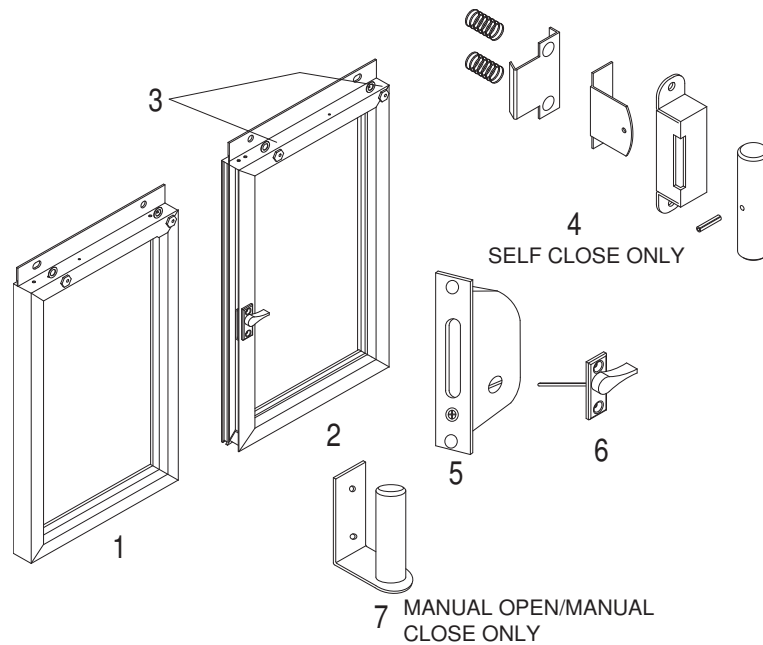
BO-10 MANUAL/SELF CLOSE & ELECTRIC HEADER ASSEMBLY EXPLODED VIEW

BO-10E Header Parts Listing

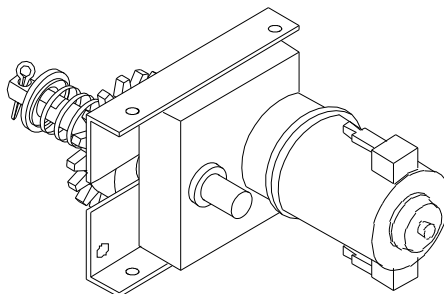
REF ID #	PART NUMBER	DESCRIPTION	REF ID #	PART NUMBER	DESCRIPTION
1	85000100	Door Slide Kit (2 Slide Channels)	10	85150510	Solenoid and Hook Assy
4	85152700	Clutch Assy	11	95151001	Cable Clamp Bracket
5	85152600	Motor & Clutch Assy	12	95150900	Cable Clamp
6	20110281	Micro switch	13/14	85152100	(Handle and Bracket in a Kit)
7	85151300	Micro switch Assy	15	65151101	Striker Plate (Sensor)
8	20200142	Kilrol Pulley	16	20060025	Tension Spring
9	85153600	Cable and Chain Assy			

BO-10 Manual & Self Close Header Parts Listing

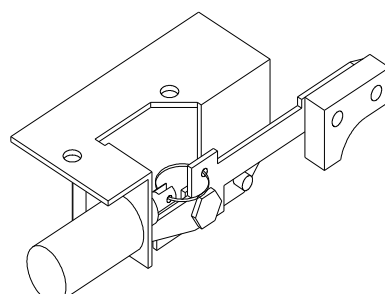
REF ID #	PART NUMBER	DESCRIPTION	REF ID #	PART NUMBER	DESCRIPTION
1A	85000150	Door TRACK Kit	12	95150900	Cable Clamp
8	20200142	Kilrol Pulley	16	20060025	Extension Spring
9A	85153700	SC Cable Assembly PVC	17	95151700	Cable Connector Bracket
11A	95151300	SC Cable Clamp Bracket			



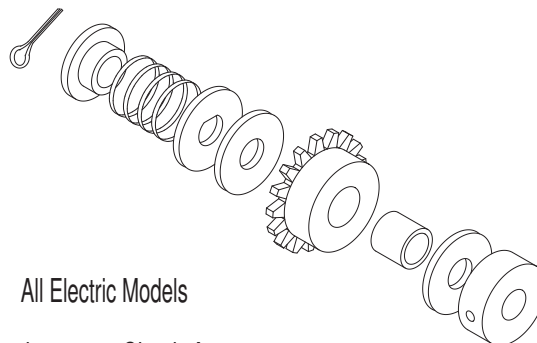
REF ID #	PART NUMBER	DESCRIPTION	REF ID #	PART NUMBER	DESCRIPTION
1	8130702	Door Assy R/H BR	4	85197000	Door Handle Kit – Manual & Self Close
1	8130902	Door Assy R/H CL	5	85004200	Latch Lock (DEAD BOLT)
2	8130701	Door Assy L/H BR	6	85004500	Thumbturn
2	8130901	Door Assy L/H CL	7	85002600	Door Handle Kit – BO-10M
3	85183400	Hanging Hardware Kit			



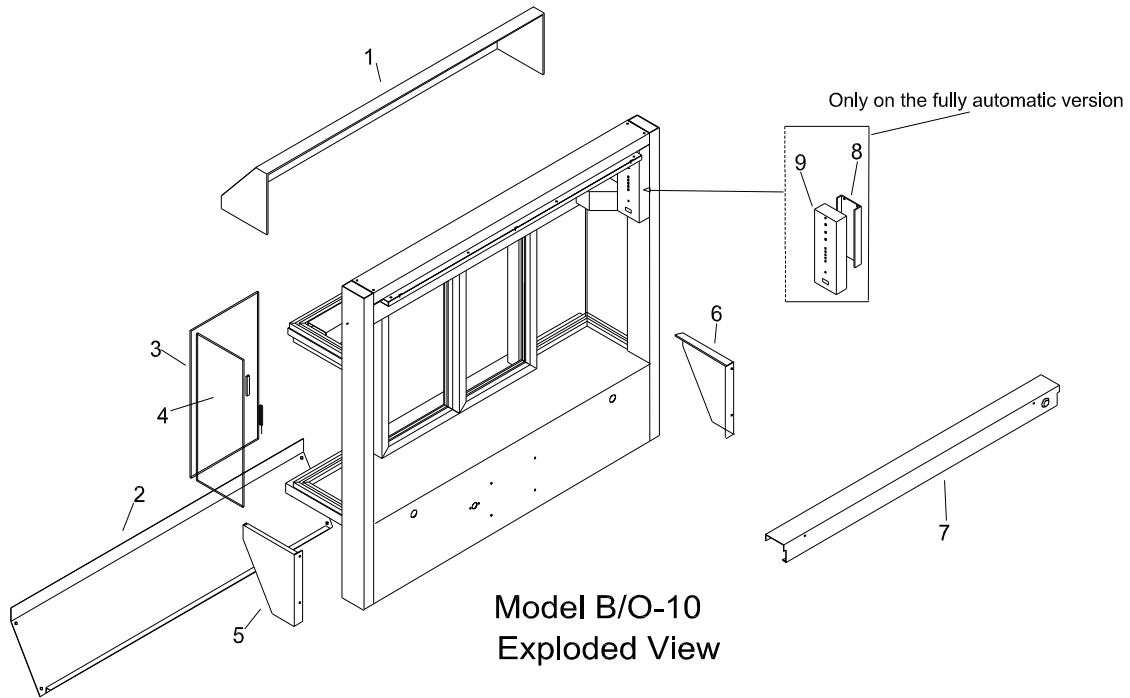
MOTOR ASSEMBLY
85152600



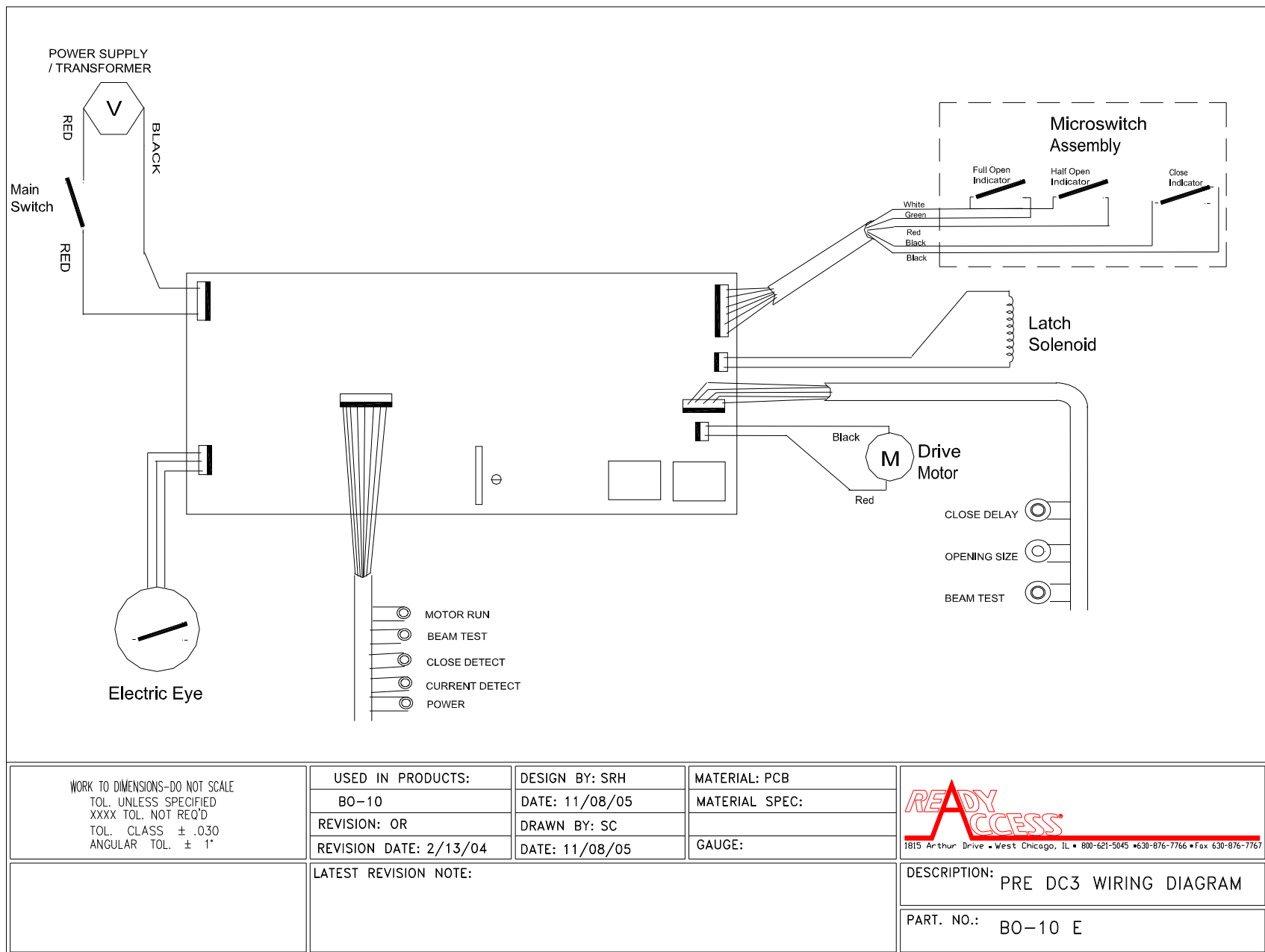
R/L SOLENOID/ HOOK ASSEMBLY
85150510

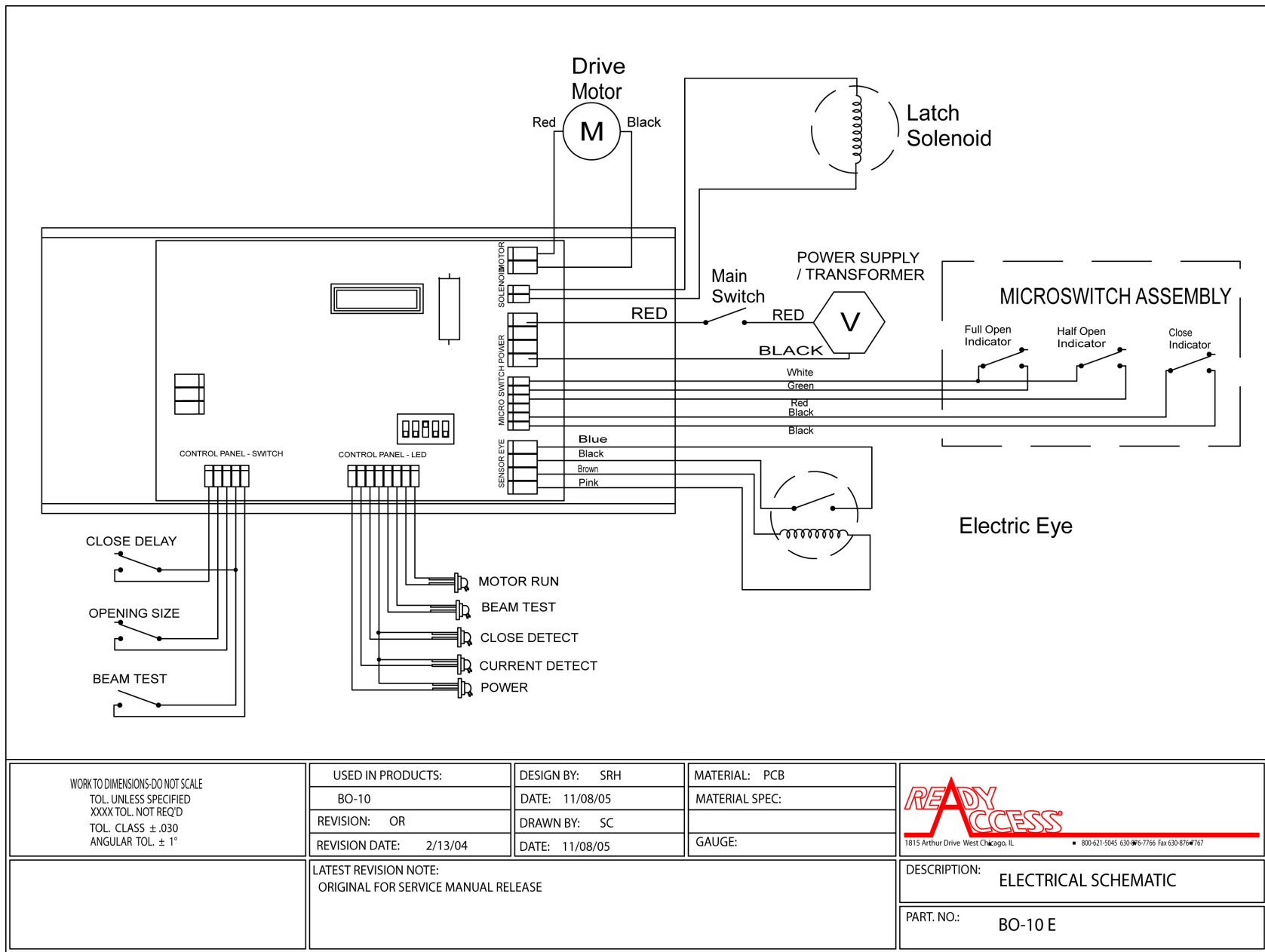


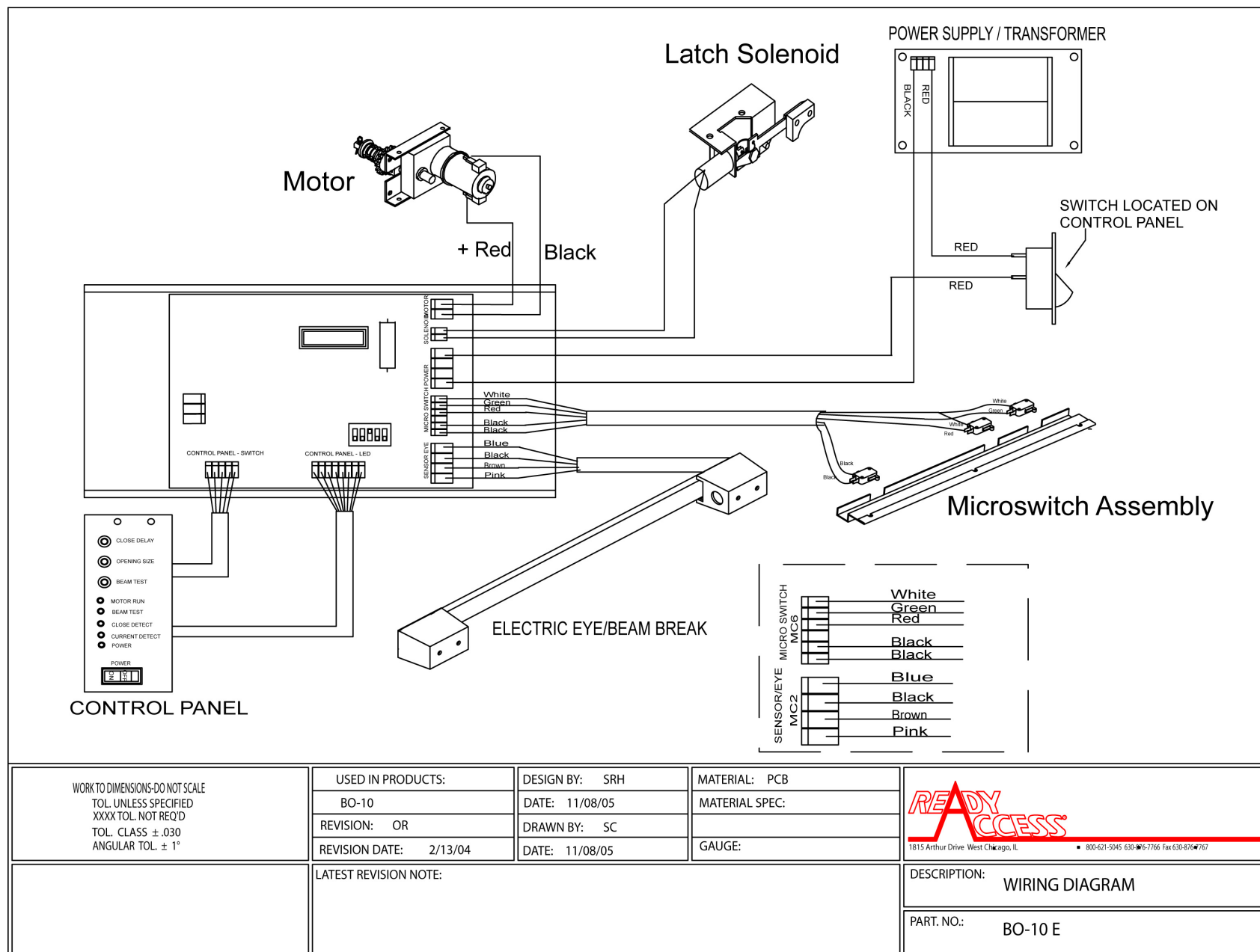
All Electric Models
Replacement Clutch Assy
Part Number 85152700



REF ID #	PART NUMBER	DESCRIPTION	REF ID #	PART NUMBER	DESCRIPTION
1	85000601	Dome Atrium - BR	6	65149501	Side Panel – L/H 10-1/2” BR -New
1	85000602	Dome Atrium - CL	6	65149503	Side Panel – L/H 10-1/2” CL -New
2	65149601	Front Cover – BR 10 1/2” New Style	7	65152201	Motor Cover
2	65149602	Front Cover – CL 10 1/2” New Style	8	Call for # Supply Serial #	Control PCB
3	00651298	Glass Front Panel	9	65150001	Cover – Wired PCBA
4	00651297	Glass Side Panel	10	65151801	Cover – Header BRZ
5	65149502	Side Panel – R/H 10-1/2” BR -New	10	65151802	Cover – Header CLR
5	65149504	Side Panel – R/H 10-1/2” CL -New			







WORK TO DIMENSIONS-DO NOT SCALE
TOL. UNLESS SPECIFIED
XXXX TOL. NOT REQ'D
TOL. CLASS $\pm .030$
ANGULAR TOL. $\pm 1^\circ$

USED IN PRODUCTS:

BO-10

REVISION: OR

REVISION DATE: 2/13/04

DESIGN BY: SRH

DATE: 11/08/05

DRAWN BY: SC

DATE: 11/08/05

MATERIAL: PCB

MATERIAL SPEC:

GAUGE:

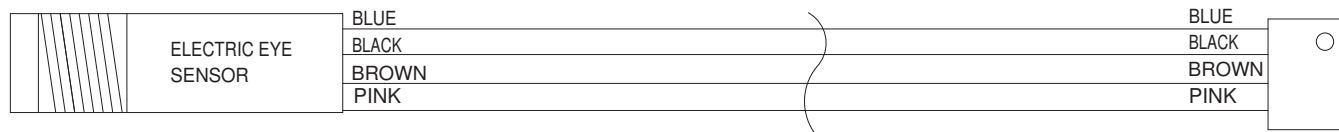
READY ACCESS

1815 Arthur Drive West Chicago, IL • 800-621-5045 630-576-7166 Fax 630-876-7167

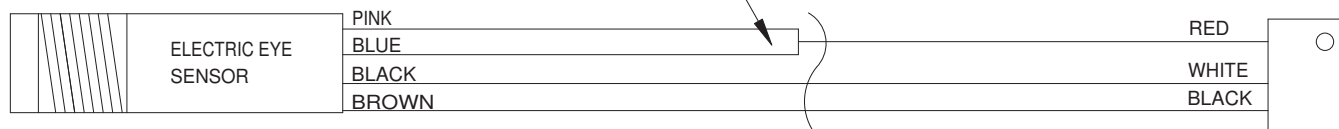
LATEST REVISION NOTE:


DESCRIPTION: WIRING DIAGRAM

PART. NO.: BO-10 E



PINK & BLUE CONNECTED
TOGETHER WITH RED WIRE



WORK TO DIMENSIONS-DO NOT SCALE TOL. UNLESS SPECIFIED XXXX TOL. NOT REQ'D TOL. CLASS $\pm .030$ ANGULAR TOL. $\pm 1^\circ$	USED IN PRODUCTS:	DESIGN BY: SC	MATERIAL: OMRON ELECTRIC EYE	 1815 Arthur Drive West • Chicago, IL • 815-421-5545 • 815-676-7766 Fax • 815-676-7767
	WAIST HIGH BEAM BREAK	DATE: 11/08/05	MATERIAL SPEC:	
	REVISION: OR	DRAWN BY: SC		
	REVISION DATE: 11/8/05	DATE: 11/08/05	GAUGE:	
	LATEST REVISION NOT E:			DESCRIPTION: ELECTRIC EYE
				PART. NO.: WIRING DIAGRAM

Appendix A

Adjusting or Re-hanging the Doors

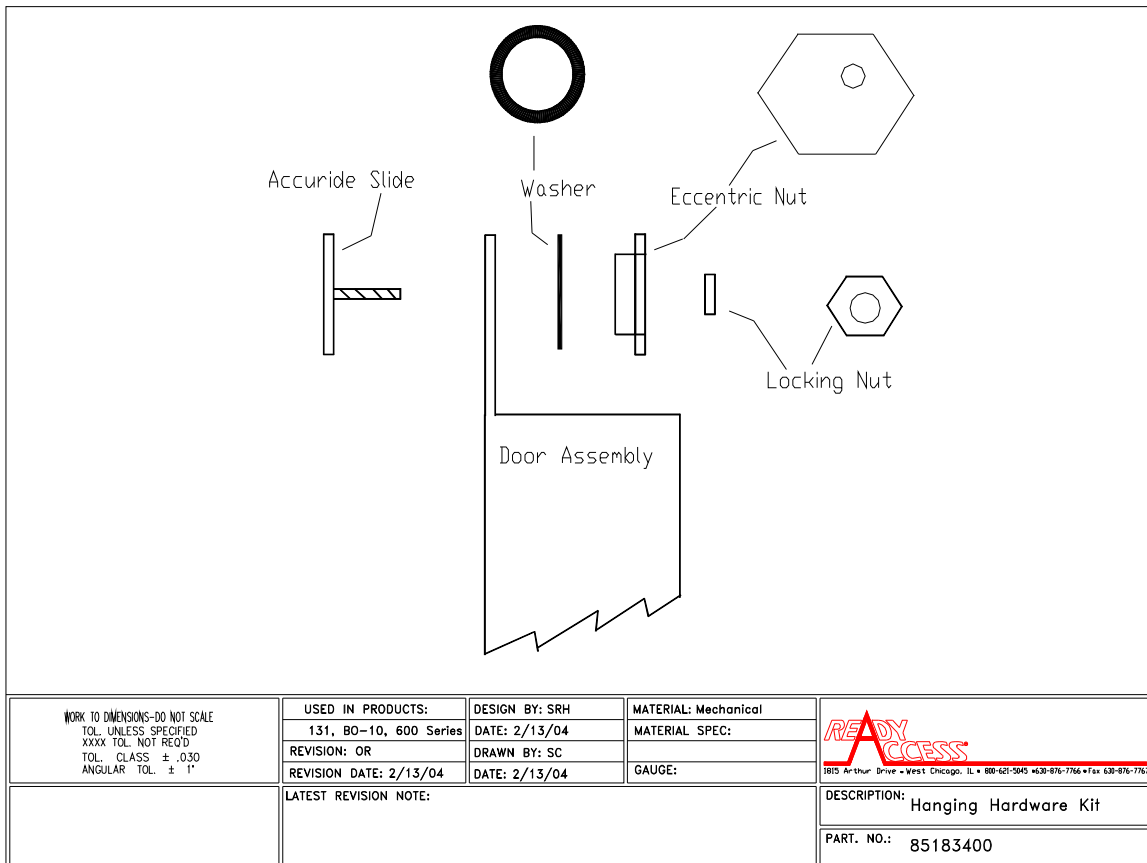
The distance of the door(s) above the mullion or counter top is adjusted by turning the eccentric nuts located in the corners at the top of each door. (See figure 11 – page 16) The exploded view of the assembly is shown in Figure 1 below.

When a door has dropped, such that it impedes the movement of the doors, it is necessary to re-adjust both doors to a given distance above the counter top. This is accomplished by loosening the two Locking / Eccentric Nut combinations at the top of each door. Loosening the small locking nuts allows both doors to drop down and rest on the counter top.

Slide the doors inward to the closed position and lock using the night lock. Insert two shims about 0.100" in thickness under each door. One at each end of the doors is suggested. A standard coffee stir or a tongue depressor is about 0.100" thick. This allows the doors to set at a preset distance off the counter top.

Starting with one of the Locking / Eccentric Nut combinations turn the eccentric nut with until you feel resistance and/or notice that the door is beginning to rise. Keeping the eccentric nut in that position, tighten the locking nut down to approximately 30 lbs/in² of torque.

Repeat the above step for each of the remaining Locking / Eccentric Nut combinations. Remove the shims. The doors should now be at the proper height as well as being square with each other.



NOTES

NOTES

